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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/694,814	10/29/2003	Joon-Seop Kwak	030681-590	4551

21839 7590 09/19/2005

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EXAMINER

DANG, TRUNG Q

ART UNIT PAPER NUMBER

2823

DATE MAILED: 09/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Advisory Action Before the Filing of an Appeal Brief	Application No. 10/694,814	Applicant(s) KWAK, JOON-SEOP	
	Examiner Trung Dang	Art Unit 2823	

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 25 July 2005 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

- a) ☒ The period for reply expires 3 months from the mailing date of the final rejection.
b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. ☐ The Notice of Appeal was filed on _____. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

AMENDMENTS

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because
(a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);
(b) ☐ They raise the issue of new matter (see NOTE below);
(c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
(d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: _____. (See 37 CFR 1.116 and 41.33(a)).


4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).
5. ☐ Applicant's reply has overcome the following rejection(s): _____.
6. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
7. ☒ For purposes of appeal, the proposed amendment(s): a) ☐ will not be entered, or b) ☒ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.
The status of the claim(s) is (or will be) as follows:
Claim(s) allowed: none.
Claim(s) objected to: none.
Claim(s) rejected: 1, 3-9, 13, and 15-21 as of record.
Claim(s) withdrawn from consideration: none.

AFFIDAVIT OR OTHER EVIDENCE

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).
9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing of a good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).
10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

REQUEST FOR RECONSIDERATION/OTHER

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because:
See Continuation Sheet.
12. ☐ Note the attached Information Disclosure Statement(s). (PTO/SB/08 or PTO-1449) Paper No(s). _____
13. ☐ Other: _____


 Trung Dang
 Primary Examiner
 Art Unit: 2823

Continuation of 11. does NOT place the application in condition for allowance because: Applicant alleges that the final Office Action has not mentioned an argument presented in the amendment of January 3, 2005.

In response, the Examiner disagrees with applicant's assertion because the Examiner has addressed every issue raised by applicant in the final Office Action, particularly with respect to Rennie's and Okumura's references. Applicant introduces new lines of argument in response to the final Office Action. However, the newly presented argument is found unconvincing because of the following reasons: Applicant argues that Rennie forms the pure oxide thin layer during a thermal treatment in a dry or wet ambient with low oxygen pressure, whereas Okumura discloses a very different mechanism in which there is no oxide layer on the contact layer 11 and therefore there would be no reason to modify the Okumura process to include the Rennie steps insofar as no oxide layer is formed on the contact layer. This is found unpersuasive because applicant apparently argues on the basis that Okumura reference was used as a primary reference and Rennie reference was used as a secondary reference while the rejection employed the opposite to show obviousness. Applicant further argues that there would be no reason to modify the Rennie method in light of the Okumura patent insofar as the Rennie patent uses a mechanism for removing residual fluorine. This argument is unconvincing since the argument relies on a feature that is not presented in the claim, i.e., the claim does not exclude the step of removing residual fluorine as in Rennie. As a matter of fact, residual fluorine is removed by a step of thermally oxidizing the GaN contact layer in oxygen atmosphere so as to obtain a low resistance ohmic contact, and it is the oxidation step that reads on the claimed second annealing as noted in the rejection. For applicant's argument that there is no reason to believe that adding an annealing step in nitrogen atmosphere would improve the resulting device and that there is no reason provided in the prior art to do both. The Examiner disagrees. Okumura clearly suggests the benefit of annealing the contact layer of GaN in nitrogen atmosphere. That is, after the GaN contact layer has been formed, it is annealed in nitrogen atmosphere to reduce the resistance of the contact layer (col. 8, lines 44-46). Rennie's teaching is to obtain a low resistance ohmic contact (contact resistance between the GaN contact layer and the metal electrode). Thus, combining the references in a manner stated in the rejection would result in reducing resistance of both the GaN contact layer and the ohmic contact, which would improve the performance of the device. Applicant is reminded that the strongest rationale for combining references is a recognition, expressly or impliedly in the prior art, that some advantage or expected beneficial result would have been produced by their combination. In re Sernaker, 702 F.2d 989, 994-95, 217 USPQ 1, 5-6 (Fed. Cir. 1983).